

## **EXHIBIT B**



**BioDiagnostics**

**Data:** June 28, 2019

**Project Code:** 219005881

**Client:** Sheehan & Associates, P.C.

**Prepared by:** Asgar Shir  
Director of Operations

**Objective:** To genotype submitted entries with a set of DNA makers to determine genetic relationships. Specifically, to compare San Marzano2 variety with other submitted entries.

**Entries:** Seven (7) samples were received on May 14, 2019 as listed below. EBDI #'s 5882 through 5887 were received as canned whole peel/stewed tomatoes. EBDI #5881 came as dry seed in a seed envelop. Seed for samples 5882-5887 were extracted from fruit from each entry and dried. Each entry was replicated 2 times and 8 seeds per replication were bulked and used as the source of DNA for screening. This procedure afforded us the opportunity to identify alleles present in 16 plants, which can determine the uniformity of entries and ensure all possible alleles present in a given entry are expressed. (NOTE: A control, EBDI #5888 was included to ensure consistent scoring)

EBDI #	Sample Name
5881	San Marzano2 DOP – 300M R48E152 R
5882	Cento Label 28 oz. A217
5883	Cento Label 28 oz. A243
5884	Cento Label 28 oz. A256
5885	Cento Label 28 oz. B205
5886	Cento Label 28 oz. A254
5887	Cento Label 28 oz. A237
5888	EBDI internal control

**DNA Markers:** Nineteen (19) primer pairs known as simple sequence repeats (SSR's) were screened with each entry.

**Results:** Genotypic data were generated following established protocols on an ABI3730XL capillary sequencer and are presented in a three (3) sheet excel workbook, 219005881 Matrix Data.xlsx. A summary of each sheet follows:

**Genotype (8Ex19M):** A modified output from the ABI3730XL with entries as rows and SSR markers as columns. Columns A and B rows 2 through 17 lists sample names. Primer designations are in row 1 columns C through U. Values in respective entry marker cells represent DNA fragment sizes in base pairs. If a single number exist, the respective entry is homozygous for the given locus. If separated by a dash (-) the entry is heterozygous. Different fragment sizes or length polymorphisms among entries for a given marker would indicate that those entries are genetically different. Of the 304 possible data points (16 entries x 19 markers), there were 6 missing data points (md). Entry #5885 accounted for 4 of those missing data points. Whether the missing data was due to the processing of those tomatoes, i.e. DNA degradation due to heat is unknown at



**BioDiagnostics**

this time. (NOTE: replications were included as genotypic differences were detected in the replicated samples)

**Nei&Li (8Ex19M):** Nei & Li's dissimilarity genetic distance algorithm is well accepted method for comparing genetic relationships based on DNA markers. Data is presented in a full rank matrix with all 8 entries. Entry designations are in column A and row 1. Values in respective cells were calculated based on data generated from all 19 markers screened and represent percent genetic dissimilarity rounded to whole numbers. Example; in cell B2 the value is 0 as one is comparing Sample 5888-A with itself and there is no dissimilarity. (NOTE: genetic similarity=1-dissimilarity).

**Dendogram:** A tree diagram depicting genetic relationships generated from the data in the fore mentioned page in a graphical format. The numbers on the scale (row 23) represent percent genetic dissimilarity between entries. Entries that are less dissimilar (more similar) are arranged closer together. Also included in this dendogram there are colored blocks indicating SSR results for each entry. If two entries have the same color for a given marker, they represent the same alleles.

**Summary:** Eight (8) samples were screened with 19 SSR's. Comparing the 6 canned samples with San Marzano2 none were genetically identical. Genetic similarities ranged from 80% similar to 65% similar. EBDI #5888 was most similar but that entry is hybrid sample that we use as an internal control. Sample #5881 showed 36% difference with everything else. Samples #s 5883, 5885 & 5886 also showed small differences within their reps (1-2%). What impact these differences have on product quality is unknown.

		TMSSR01	TMSSR03	TMSSR04	TMSSR06	TMSSR11	TMSSR20	TMSSR24	TMSSR26	TMSSR27	TMSSR28	TMSSR29	TMSSR32	TMSSR38	TMSSR42	TMSSR45	TMSSR46	TMSSR48	TMSSR58	TMSSR61
5881-A	R48E152R	192	147	209	107-235	235	92-126	210	145	198	260	168	237	167	146	199	239	258	162	202-216
5881-B		192	147	209	107-235	235	92-126	210	145	198	260	168	237	167	146	199	239	258	162	202-216
5882-A	A217	192	147-153	209-216	107	235	92	210-222	145	203-207	260	170	237-242	165-167	143-146	199-203	239	205	165-186	202-214
5882-B		192	147-153	209-216	107	235	92	210-222	145	203-207	260	170	237-242	165-167	143-146	199-203	239	205	165-186	202-214
5883-A	A243	192	153	209-216	107	235	92	210-222	145	198-207	260	170	237-242	165-167	md	199-203	239	205	162-186	202-210-214-216
5883-B		192	153	209-216	107	235	92	210-222	145	198-207	260	170	237-242	165-167	md	199-203	239	205	162-165-186	202-210-214-216
5884-A	A256	192	153	209-216	107	235	92	210-222	145	198	260	170	237-242	167	146	203	239	205-258	162-165	202-214
5884-B		192	153	209-216	107	235	92	210-222	145	198	260	170	237-242	167	146	203	239	205-258	162-165	202-214
5885-A	B205	192	153	209-216	107	235	92	217-222	md	198-207	260	170	237-242	167	md	199-203	239	205	165-186	202-205-210-214
5885-B		192	153	209-216	107	235	92	217	md	198-207	260	170	237-242	167	md	199-203	239	205	165-186	202-205-210-214
5886-A	A254	192	153	209	107	235	92	210-222	145	198-203-207	260	170	237-242-255	165-167	143	199-203	239	205	186	202-210
5886-B		192	153	209	107	235	92	210-222	145	198-207	260	170	237-242-255	165-167	143	199-203	239	205	186	202-210
5887-A	A237	192	153	209	107	235	92	210-222	145	198-207	260	170	237-242	167	143	199-203	185-239	205	159-162-165-186	202-210-214
5887-B		192	153	209	107	235	92	210-222	145	198-207	260	170	237-242	167	143	199-203	185-239	205	159-162-165-186	202-210-214
5888-A	EBDI control	192	153	209	107-235	235	92-126	210-222	145	198-207	260	168-170	237	167	146	203	239	205	165	202-214
5888-B		192	153	209	107-235	235	92-126	210-222	145	198-207	260	168-170	237	167	146	203	239	205	165	202-214

